IMAGE

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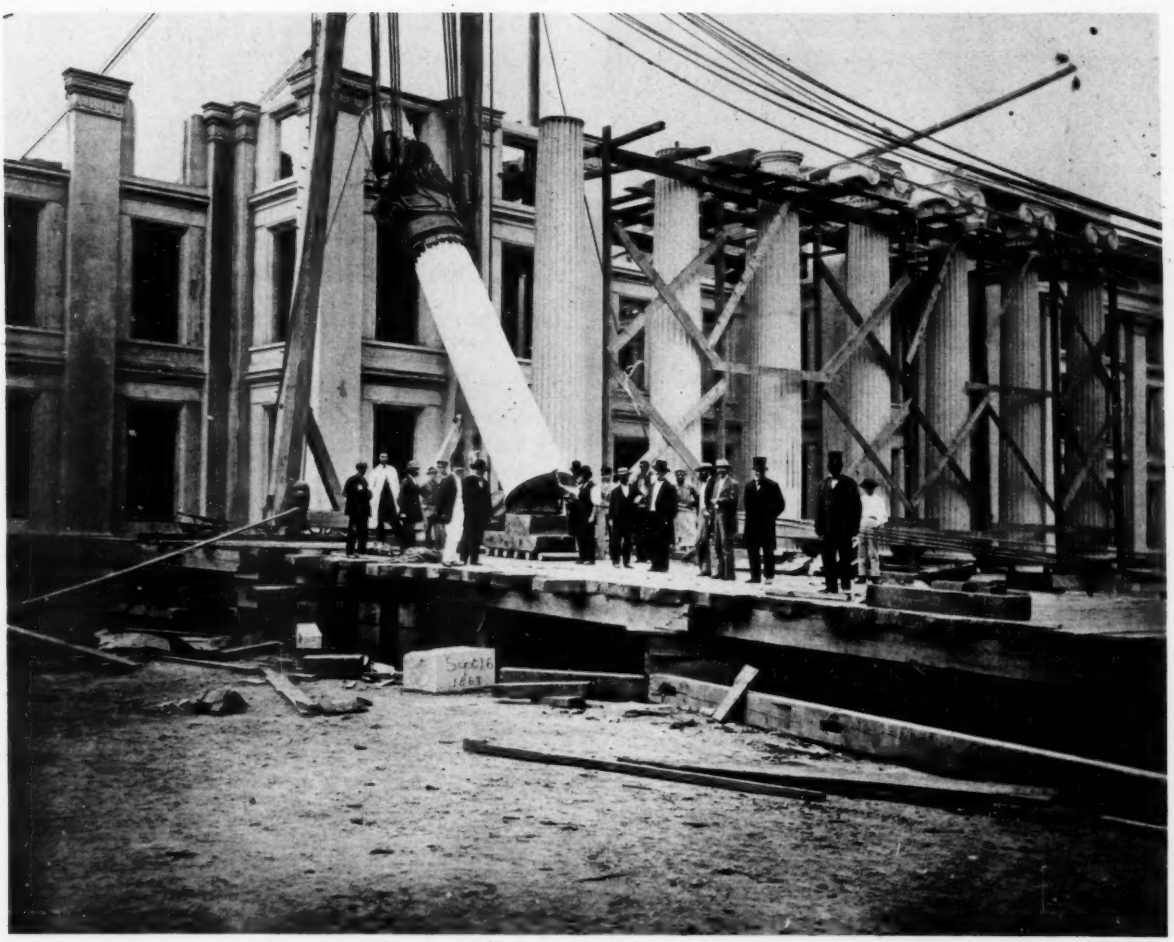

BUILDING A WING OF THE UNITED STATES CAPITOL. From a collodion negative made by an unknown photographer in 1861; note that the date has been written over one of the stones. The picture is reproduced by courtesy of the Chicago Historical Society. The original may be currently seen in the Society's show at Chicago called "American Photography: 1845-1865," which will remain on view until March 1955.

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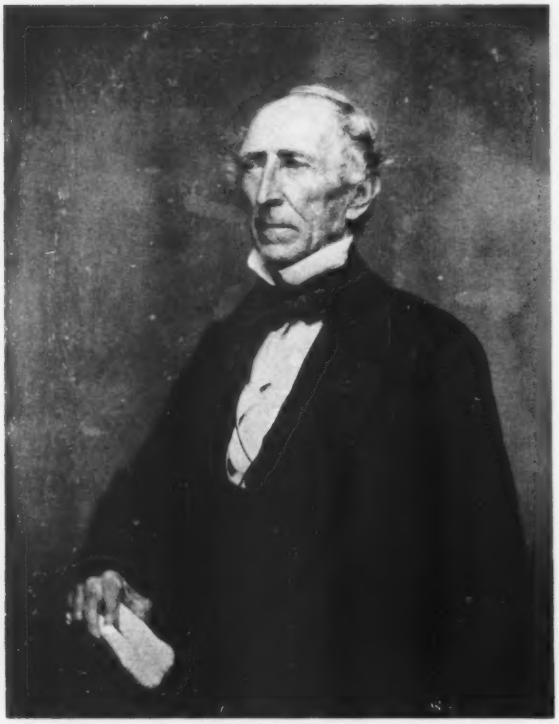
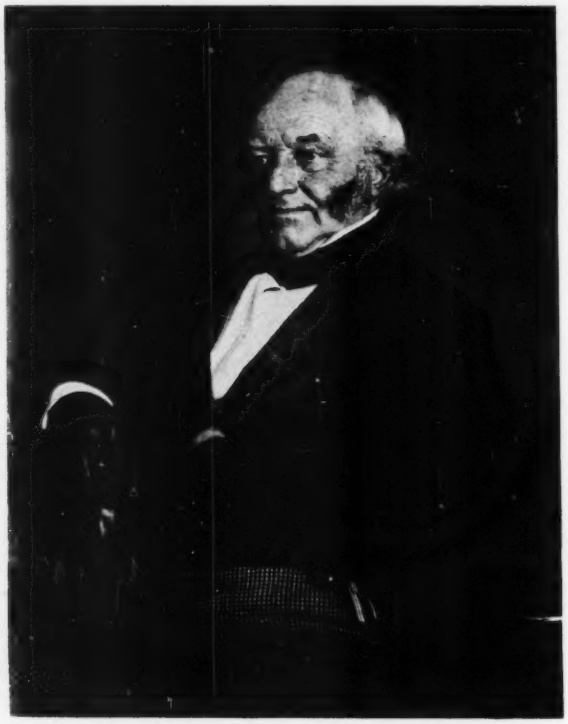


JOHN TYLER, PRESIDENT, 1841-1845. A daguerreotype, probably by Edward Anthony, about 1850.



MARTIN VAN BUREN, PRESIDENT, 1837-1841. A daguerreotype, about 1848, maker unknown.

CHICAGO HISTORICAL SOCIETY DISPLAYS ITS TREASURES

The Chicago Historical Society put on an exhibition this year out of its splendid collection of early photographs. It was titled "American Photography: 1845-1865" a few examples of which are reproduced here by the courtesy of the society. The director, Paul Angle wrote an article on the exhibition for the Society's publication, Chicago History *from which the following is in part quoted.*

Daguerre's process was quickly brought to America. Enthusiasts were experimenting with it before the year 1839 had come to an end. Among early practitioners of the art were two men who would become famous: Mathew Brady and Edward Anthony.

Born in New York City in 1818, Anthony studied civil engineering at Columbia College. In 1838, after graduating, he worked on the Croton aqueduct, then under construction. While he was thus engaged, the daguerreotype reached the United States. Anthony heard about it, became interested, and took lessons in the art. He was soon so proficient that he was employed as a member of the government mission to survey the northeast boundary of the United States, then in dispute with Great Britain. Upon the completion of the mission he decided to abandon engineering for photography and, with two associates, set up a daguerreotypist's studio in Washington.

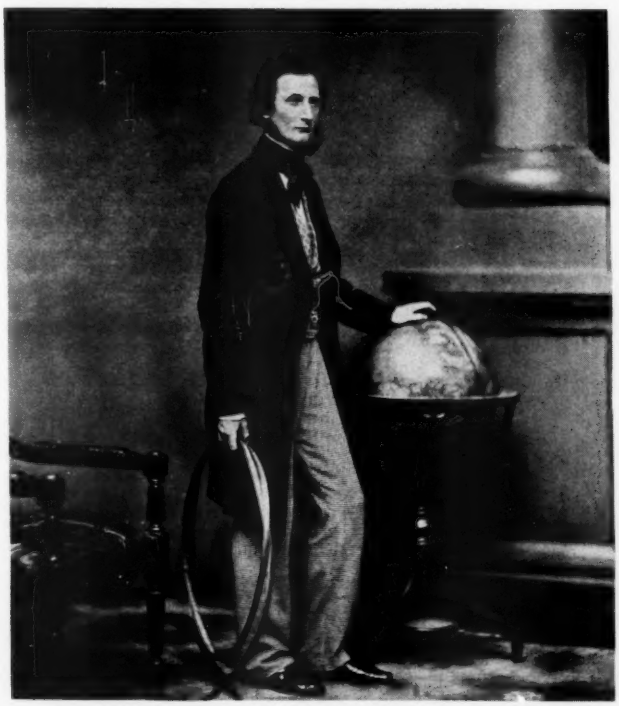
He quotes from Robert Taft's PHOTOGRAPHY AND THE AMERICAN SCENE, "They (Anthony and his associates) secured daguerreotypes of all the members of Congress, doubtless by offering them free daguerreotypes for themselves. As a number were made at each sitting, their profits must have come from the sale of the additional daguerreotypes secured. John Quincy Adams was photographed by this firm, for he records in his diary under date of April 12, 1844, 'At the request of J. M. Edwards and Anthony, I sat also in their rooms while they took three larger daguerreotype likenesses of me than they had taken before. While I was there President Tyler and his son John came in; but I did not notice them.'

"Regardless of Mr. Adams' feeling for President Tyler, it is apparent that with ex-presidents and presidents as sitters, Edwards and Anthony were doing a very good business, and they succeeded in recording on the silver plate all the notables of Washington. The likenesses which they secured here formed a National Daguerrean Gallery. This collection, which at the present day would be nearly priceless, recording as it did the images of many figures famous in American history during the first four decades of the last century, was unfortunately, save for a single piece, destroyed by fire in 1852. The single exception was the portrait of none other than John Quincy Adams! The spirit of the

grim old warrior (who had passed to his reward by this time) must have been comforted at the ability of his image to withstand this trial by fire, while the metallic immortality of Tyler and his contemporaries proved to be no immortality at all."

Now, we have a hunch that at least some of the daguerreotypes in our exhibition were made by Anthony while he was creating his National Daguerrean Gallery. They would, of course, have to be those given to his subjects or sold to admirers rather than those exhibited in New York, but it is not inconceivable that many of these survived. Our collection includes many men who were prominent in Washington between 1843, when Anthony established his studio there, and 1852, when fire destroyed the Gallery. We have, for example, Thomas Hart Benton, United States Senator from Missouri, and Anthony's patron; Lewis Cass, during these years Senator from Michigan and (in 1848) Democratic candidate for the Presidency; Martin Van Buren, a political power for years after he left the Presidency in 1841; John Tyler, who succeeded to the Presidency after the death of William Henry Harrison; Millard Fillmore, who became President when Zachary Taylor died in 1850; and Franklin Pierce, who followed Fillmore. Louis Kossuth, Hungarian patriot, was in the United States in 1851-1852; Narcisco Lopez, Spanish-American revolutionary, was here most of the time from 1848 until 1851, when he

HORACE GREELY, from a daguerreotype.



CYRUS WEST FIELD, who laid the Atlantic cable.

CAPTAIN WILLIAM P. BLACK

was captured and executed after the failure of a filibustering expedition to Cuba Likeness of both men are among our daguerreotypes.

Some of the daguerreotypes that we have mentioned were certainly made before 1852; all could have been. That, and the prominence of the subjects, leads us to think that they were Anthony's work. If this surmise is correct, the destruction of the National Daguerrean Gallery was not as calamitous as Taft thought, for something approaching it is to be found in the Chicago Historical Society.

THE INVENTION OF THE DRY PLATE

Photography as we know it today is based upon the invention of the gelatine bromide dry plate, by Richard Leach Maddox of England. An amateur photographer, he was dissatisfied with the wet collodion process, and was the first to work out a really practical substitute for it. Because of the importance of his publication, we reprint in facsimile Dr. Maddox's original article from pages 422-3 of the British Journal of Photography, *volume 18, September 8, 1871.*

1. PUBLICATION BY R. L. MADDOX

AN EXPERIMENT WITH GELATINO-BROMIDE.

THE collodio-bromide processes have for some time held a considerable place in the pages of THE BRITISH JOURNAL OF PHOTOGRAPHY, and obtained such a prominent chance of being eventually the process of the day in the dry way, that a few remarks upon the application of another medium may perhaps not be uninteresting to the readers of the Journal, though little more can be stated than the result of somewhat careless experiments tried at first on an exceedingly dull afternoon. It is not for a moment supposed to be new, for the chances of novelty in photography are small, seeing the legion of ardent workers and the ground already trodden by its devotees, so that for outsiders little remains except to take the result of labours so industriously and largely circulated through these pages and be thankful.

Gelatine, which forms the medium of so many printing processes, and which doubtless is yet to form the base of more, was tried in the place of collodion in this manner:—Thirty grains of Nelson's gelatine were washed in cold water, then left to swell for several hours, when all the water was poured off and the gelatine set in a wide-mouthed bottle, with the addition of four drachms of pure water and two small drops of *aqua regia*, and then placed in a basin of hot water for solution. Eight grains of bromide of cadmium dissolved in half-a-drachm of pure water were now added, and the solution stirred gently. Fifteen grains of nitrate of silver were next dissolved in half-a-drachm of water in a test tube and the whole taken into the dark room, when the latter was added to the former slowly, stirring the mixture the whole time. This gave a fine milky emulsion, and was left for a little while to settle. A few plates of glass well cleaned were next levelled on a metal plate put over a small lamp; they were, when fully warmed, coated by the emulsion spread to the edges by a glass rod, then returned to their places and left to dry. When dry, the plates had a thin, opalescent appearance, and the deposit of bromide seemed to be very evenly spread in the substance of the substratum.

These plates were printed from in succession from different negatives, one of which had been taken years since on albumen with ox-gall and diluted phosphoric acid, sensitised in an acid nitrate bath, and developed with pyrogallic acid, furnishing a beautiful warm brown tint.

The exposure varied from the first plate thirty seconds to a minute and a-half, as the light was very poor. No vestige of an outline appeared on removal from the printing-frame. The plates were dipped in water to wet the surface, and over them was poured a plain solution of pyrogallic acid, four grains to the ounce of water. Soon a faint but clean image was seen, which gradually intensified up to a certain point, then browned all over; hence the development in the others was stopped at an early stage, the plate washed and the development continued with fresh pyro., with one drop of a ten-grain solution of nitrate of silver, then re-washed and cleared by a solution of hyposulphite of soda.

The resulting prints were very delicate in detail, of a colour varying between a bistre and olive tint, and after washing dried with a brilliant surface. The colour of the print varied greatly, according to the exposure. From the colour and delicacy it struck me that with care to strain the gelatine or use only the clearest portion, such a process might be utilised for transparencies for the lantern and the sensitive plates be readily prepared.

Some plates were fumed with ammonia; these fogged under the pyro. solution. The proportions set down were only taken at random, and are certainly not as sensitive as might be procured under trials. The remaining emulsion was left shut up in a box in the dark room and tried on the third day after preparation; but the sensibility had, it seems, greatly diminished, though the emulsion, when rendered fluid by gently warming, appeared creamy and the bromide thoroughly suspended. Some of this was now applied to some pieces of paper by means of a glass rod, and hung up to surface dry, then dried fully on the warmed level plate, and treated as sensitised paper.

One kind of paper that evidently was largely adulterated by some earthy base dried without any brilliancy, but gave, under exposure of a negative for thirty seconds, very nicely-toned prints when developed with a weak solution of pyro., having very much the look of a neutral-toned carbon print without any glaze, and I think might be rendered useful on plain paper. Some old albumenised paper of Marion's was tried, the emulsion being poured both on the albumen side and, in other pieces, on the plain side, but the salting evidently greatly interfered, the resulting prints being dirty-looking and greyed all over.

These papers fumed with ammonia turned grey under development. They printed very slowly, even in strong sunlight, and were none of them left long enough to develope into a full print. After washing they were cleared by weak hypo. solution. It is very possible the iron developer may be employed for the glass prints, provided the usual acidification does not render the gelatine soft under development.

The slowness may depend in part on the proportions of bromide and nitrate not being correctly balanced, especially as the ordinary, not the anhydrous, bromide was used, and on the quantities being too small for the proportion of gelatine. Whether the plates would be more sensitive if used when only surface dry is a question of experiment; also, whether other bromides than the one tried may not prove more advantageous in the presence of the neutral salt resulting from the decomposition, or the omission or decrease of the quantity of *aqua regia*. Very probably also the development by gallic acid and acetate of lead developer may furnish better results than the plain pyro.

As there will be no chance of my being able to continue these experiments, they are placed in their crude state before the readers of the Journal, and may eventually receive correction and improvement under abler hands. So far as can be judged, the process seems quite worth more carefully-conducted experiments, and, if found advantageous, adds another handle to the photographer's wheel.

R. L. MADDOX, M.D.

2. DR. MADDOX CHALLENGED

By 1879 Dr. Maddox's dry plate process was universally adopted by photographers, and the editor of *The British Journal Photographic Almanac,* reviewing the year's work, opened his leader with a history of the new technique. After telling of the original publication (here reprinted) the editor goes on to state that "the next step in gelatine photography was announced in the *British Journal of Photography* for July 25, 1873, in which number Mr. Burgess, of Peckham, advertised for sale his new emulsion. Though it was not stated at the time, it was generally known that the basis of Mr. Burgess's emulsion was gelatine . . . Though we cannot credit Mr. Burgess with having added greatly to our knowledge of gelatine emulsion, it is at least due to him to say that he sounded the key-note which was subsequently taken up by others."

As soon as John Burgess read these lines he rushed to his pen. "It is now seven years since gelatino-bromide was launched, with great expectations, upon public attention. As its originator I have naturally followed its progress with great interest; and although I have kept silence for years while others have steered the ship which I built, I think it now high time to correct some of the errors respecting it, which must soon become popular if left unexposed.

"And, firstly, will you kindly allow me a word or two respecting the origin of the process? In your historical sketch in the *Almanac* you assign to me the credit of having sounded the key-note and for whatever that may mean I am thankful . . . " he wrote under date of May 12. "Now I have been laying the flattering unction to my soul that I not only struck the key-note, but composed the whole of the tune to which photographers are dancing so merrily. Is this a dream?"

The question remained unanswered until, "quite accidentally" on Wednesday, June 25, Maddox happened to pass the magazine's office and saw a sample copy on display opened at the offending page. "It appears again necessary to assert my priority," he wrote the editor, then proceeded to review the circumstances of the original publication. He concluded that "Charles Lamb's classification of mankind as 'Those who borrow and those who lend' stands good even in matters photographic; and I fear, after the foregoing statements, Mr. Burgess cannot joyously 'lay the flattering unction to his soul' of being the *originator* of the gelatino-bromide emulsion, however he may delight to dance to the sound of his flageolet, for he says he has 'composed the whole of the tune.' I am, yours, etc."

Mr. Burgess was not a man to let matters stand. His reply appears in the "B. J." for July 16. He starts by disclaiming having ever seen Maddox's original 1871 article. "It fills me with calm serenity and self-congratulation when I see that process in fair print—an unanswerable witness in favour of Dr. Maddox. But I cannot help feeling how lucky I was to escape noticing that precious communication on its first appearance . . . If I had tried it I should inevitably have been so disgusted with gelatine as to have dismissed it from my mind for ever. Then where would gelatino-bromide have been now? Fortunately Dr. Maddox's gelatino-bromide was dead, buried, and forgotten when I commenced my experiments; and I hope Dr. Maddox will forgive me for saying it deserved to be.

"I do not pretend to be the first who *tried* to make gelatino-bromide work, but I was the first who did it. There is gelatino-bromide that is good for nothing, and there is gelatino-bromide that will make a dry plate quicker than a wet one. It is the latter I originated. I do not envy Dr. Maddox the honour of inventing the other. His gelatino-bromide was an experiment that did not, and could not, possibly succeed."

To this Dr. Maddox answered with indulgence. "I certainly should not have attempted to defend my claim," he wrote the editor of July 17, " . . . had not the letter from Mr. Burgess been really too pretentious to pass unnoticed. The resuscitation of the 'long dead, buried, and forgotten' I was afraid would unharmonise the tune. . . . The poor, despicable process as I gave it, and exhibited negatives and positives taken by its means, would, I trow not, have found other ardent workers, seeing that it has been the origin of the employment of many minds and more hands, both at home and abroad; although, if we dare believe other eyes than our own, or listen to the crier's proclamation, Mr. Burgess's bushel would be found large enough to extinguish all candles but his own."

This led Mr. Burgess to write a letter that overuns a column of agate type. He has moved to a new address, "Helio House" in Greenwich. "I have neither time nor inclination to enter into a war of words and phrases," he writes. "I will, therefore, dismiss Dr. Maddox's meaningless metaphors without further notice. . . . I am sorry Dr. Maddox is not satisfied with my acknowledgement of his claims."

He now, surprisingly, backs down: "I allow him the full credit of being the originator of a process; but I claim for myself to be the originator of another and radically different process—so different that it cannot in fairness be called a modificaton of his. This is altogether too pretentious for Dr. Maddox; but there is no pretension at all, since it is a simple matter of fact that gelatino-bromide would have made just the progress it has if Dr. Maddox had never existed."

Maddox had the final word in the August 6 issue. "The question at issue . . . has been materially narrowed. Judging by its tone . . . I am sure your readers will see that Mr. Burgess's mistake in claiming too much needed wholesome correction." The editor settled the controversy: "We are pleased to be able to state that we have discovered amongst the accumulation of curiosities which cumber the shelves of our editorial office, two of Dr. Maddox's original specimens, bearing the date of September 11, 1871 . . . These two plates prove very conclusively that the gelatino-bromide process, even at that remote period, was far from being the hopeless muddle it is alleged to have been. The results produced in 1871 by Dr. Maddox are equal, in respect of quality of image, density, and pluck, to any gelatine work of today."

THE NAMES OF PRINTS: A GLOSSARY
Continued.

GREASY or PRINTER'S INK PROCESS The capacity of insoluble gum arabic to absorb greasy ink was utilized. Gum arabic was proportionally insolubilized by light in the presence of certain iron salts. Exposure was through the back of the paper. Ink was applied while wet and the soluble portions were removed with absorbent cotton and water leaving an ink-pigmented positive image. The process was invented by A. Fisch probably in the 1880's.

GUM-BICHROMATE PRINT (syn. GUM-PIGMENT, GUM PRINTS) A pigmented gum arabic is sensitized with bichromate, which tans the gum proportionally according to the amount of light, when exposed under a negative. The soluble gum is washed away leaving a positive image. Great control is afforded the photographer by using three successive printings; one for the shadows, one for the middle tones, one for the highlights. The process was introduced by John Pouncy in 1858 and taken up by several photographers including Puyo about 1894. It was popular with salon exhibitors for half a century and is still used occasionally.

GUM PROCESSES A term used to identify a number of processes in which gum arabic, or a similar colloid, is the suspending medium.

INK PROCESS (see FERROGALLIC)

KALLITYPE One of the silver-iron processes in which the light sensitivity of iron salts is combined with chemical reaction with silver nitrate to produce a metallic silver image. In a second method, the paper is coated with the iron salt, exposed, and developed in silver nitrate. Kallitype was a commercially produced paper used as an economical substitute for the platinum print, and enjoyed moderately popular use by advanced amateurs for half a century. It is not permanent.

MELAINOTYPE or MELANOTYPE (see TINTYPE)

OIL PROCESS An unpigmented bichromated gelatin is exposed to light under a negative to differentially harden the gelatin. Printers inks are applied by brush. The least hardened gelatin takes the least ink, the most hardened becomes darkest. The process, then called oleography, was introduced in 1855, and later reintroduced by G. E. H. Rawlins in 1904. An enlarged negative is required. When bromoil was introduced in 1907, which permitted large prints to be made by projection, the oil process fell into disuse.

OZOBROME (syn. CARBO PRINT)

OZOTYPE (see CARBON PRINT)

PALLADIOTYPE (see PLATINUM PRINT)

PALLADIUM PRINT Except for the substitution of the cheaper palladium salt, the process is similar to the platinum print.

PANNOTYPE (the Tintype process applied to leather)

PLAIN PAPER (see CALOTYPE)

PLATINOTYPE (syn. PLATINUM PRINT)

PLATINUM PRINT A very slow contact process which gives an extremely long scale of gradations and renders the delicate tones of the negative more faithfully than any other medium. It is the most permanent type of photographic print. The paper is impregnated with potassium chloroplatinite and ferric oxalate, the iron salt being light sensitive. Complex chemical reaction untimately results in the precipitation of metallic platinum, when exposed under a negative. The remaining iron salts are dissolved out by hydrochloric acid. The process was patented in 1873 by William Willis and used mainly by extremely advanced workers. Because of the high cost of platinum and the difficulty of using it, the platinum print is now rare.

PRIMULINE PROCESS (see DIAZO PROCESS)

SALTED PAPER (see CALOTYPE)

TALBOTYPE (syn. CALOTYPE)

TINTYPE (syn. MELAINOTYPE, MELANOTYPE FERROTYPE) This is essentially the same idea as the ambrotype. Collodion was applied to thin sheets of iron Japanned black or brown. Underexposure yielded a thin negative which gave the appearance of a positive print since the deposit was lighter than the background. Patented by Hamilton L. Smith in 1856, it had an enormous use by the itinerant photographer and is still seen occasionally at amusement parks.

WOODBURYTYPES The Woodburytype was a photomechanical reproduction of a carbon print that resembled the original so closely that it was frequently mistaken for one. The bichromated gelatin in a carbon print forms a relief image in the course of processing. The dried gelatin in this relief image is hard enough to deform lead under great pressure (5 tons per square inch) to form a mold. Pigmented gelatin in a jelly state is poured over the lead mold and squeezed against paper. The excess oozes out around the edges leaving a positive print that is almost an exact reproduction of the original.

END

LIONEL BARRYMORE

For more than forty uninterrupted years, the faces of Lionel Barrymore, Lewis Stone and Wallace Beery were familiar to filmgoers throughout the world. Along with other veteran screen actors these stalwarts of the cinema formed the solid base of Hollywood's enduring players in a kind of repertory company that circled the globe each season for more than four decades.

Now that all three of them are gone it is quite certain that American films have lost forever a considerable portion of their quality that defined them internationally.

The acting career of Lionel Barrymore was prodigious. Quite apart from such memorable stage successes as "Pantaloon," "Laugh Clown Laugh," "The Jest" and "The Copperhead," Lionel appeared in close to one hundred fifty films from 1912 to 1952. He managed in addition to direct a half dozen major productions, composed music which, now that he is gone, is beginning to be played, and for his own satisfaction, to paint with more than tolerable talent.

Like his more flamboyant brother, John, Lionel was a reluctant actor; John had tried to become an illustrator; Lionel had studied art in Paris before he gave himself over to D. W. Griffith in the Biograph studios of New York City.

LIONEL BARRYMORE AS BOSTON BLACKIE, "The Face in the Fog," 1922. With Louis Wolheim and Signe Auen.

By 1913, both Lionel and John were sharing the Barrymore gifts with the theatre and the cinema but not until 1919 was the public able to enjoy the spectacle of the Brothers Barrymore together on the stage; the occasion was the memorable production of "The Jest." Theatrical astronomy did not repeat this phenomenon for another thirteen years when Lionel played cop to John's robber in MGM's film "Arsene Lupin." The two made such a fascinating team that in the next two years they acted together in the memorable movies "Grand Hotel," "Rasputin and the Empress," "Dinner at Eight" and "Night Flight."

With John and Lionel in the same show, one could always count on extras not in the script. In "Night Flight" John playfully interpolated the line "Do you have to be scratching yourself all the time?" when Lionel went into one of his habitual "character" routines. In "Grand Hotel" after their biggest scene together when John as the titled hotel thief restores the wallet he has stolen from ailing Kringelein, as John attempted to leave the scene, Lionel mischievously held on to his hand after wishing him good night. The script called for a hasty exit, but Lionel refused to loose his hold on his brother's hand. The scene was prolonged delightfully with private amusement gleaming in each of the actor's eyes.

THE TWO BARRYMORES, Lionel and John, in the same show for the first time since 1919: "Arsene Lupin" 1932.

Lionel Barrymore's performances were invariably so good and of such uniform excellence that only once did he seem to surpass his own high standard in the eyes of the Academy Awards Committee. His role in a "Free Soul" in 1931 brought the only Academy Award to one of America's most consistently fine actors.

But as the skipper in "Captains Courageous," Kringelein in "Grand Hotel," a bereaved German father in "Broken Lullaby" as an unforgettable statesman in "Washington Masquerade" Lionel Barrymore acted with an ease and style that completely outclassed many an award winner.

Admirers with long memories may recall the earlier days when Lionel towered above other film players, a robust and imposing six feet four, with a profile to match that of his bohemian brother. They will remember the glittering eyes of Captain Walter Butler in D. W. Griffith's "America," the rugged westerner in early Metro films, the leading man for Lillian Russell in "Wildfire" and one who shared with Pearl White, the "Exploits of Elaine." And of course there is the charming "New York Hat" of 1912, still in circulation which has preserved for all time the delightful images of Mary Pickford and her handsome minister.

It is extremely doubtful whether widening screens will in any measure make up the loss motion pictures suffered with the departure of the last and most beloved of the old-school titans: Lionel Barrymore.

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